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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,353	02/24/2004	Lars Karlsson	ADV4-H61	8962

7590 10/25/2006

Karl M. Steins  
Steins & Associates  
Suite 120  
2333 Camino del Rio South  
San Diego, CA 92108

EXAMINER

MULL, FRED H

ART UNIT PAPER NUMBER

3662

DATE MAILED: 10/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/785,353

Applicant(s)

KARLSSON ET AL.

Examiner

Fred H. Mull

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because it is not directed to the claimed invention. In the abstract, paper June 6, 2006, p. 2, line 11-12, it states: "whereby collected locating data from several DF sets can be combined". However, the claimed invention uses a single DF set. Correction is required. See MPEP § 608.01(b).
2. On p. 8, line 16, "discription" should be --description--.

### *Drawings*

3. Fig. 6, as well as the corresponding description in the specification, is objected to because it is inconsistent with the invention as described in the claims and the rest of the disclosure of the invention. For clarity, attached is an appendix drawing showing what is believed to be the claimed invention. The reference numbers correspond to those given in the flow chart of Fig. 7. The appendix drawing uses an earth-fixed reference frame, so that the transmitter is fixed and the receiver is moving. The first (56A) and second (56B) measurements are used to determine a cross-over point (64). The addition of a third (56C) measurement adds a third line of bearing from which a connecting vector (66) is determined. The portion of the appendix drawing showing second (56B) and third (56C) measurements should correspond to Fig. 6, where Fig. 6 illustrates the situation where the receiver is taken as origin of the coordinate system. Appendix drawing 58B corresponds to Fig. 6 LOB(0). In the earth-fixed frame of the

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appendix drawing, the receiver moves left from 56B to 56C. From the receiver's point of view, the transmitter is moving right from PP(0) to PP(1). Thus, it would appear that 52 is a vector whose magnitude and direction represent the motion of the receiver, which is displaced and shown ending at the cross-over point PP(0), where the vector would be a bit off from vector 60C due to the error in measurement of the line of bearing 58C/LOB(1). In other words, 52 is the vector 60C moved to end at the cross-over point, plus the error in measurement. (This is also illustrated by the dotted line to the right of 64 in the appendix drawing, where 52 and the actual connecting vector can be contrasted.) In simplest terms, it does not appear to the examiner that 52 in Fig. 6 corresponds to the connecting vector defined in the rest of the specification and the claims, despite the description that it does on p. 12, line 12. Fig. 6 needs to be corrected or redone.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Allowable Subject Matter***

4. Claim(s) 1-15 are allowed.

***Conclusion***

5. This application is in condition for allowance except for the formal matters presented in items 1 and 2, above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 571-272-6975. The examiner can normally be reached on Monday through Friday from approximately 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on 571-272-6979. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred H. Mull  
Examiner  
Art Unit 3662

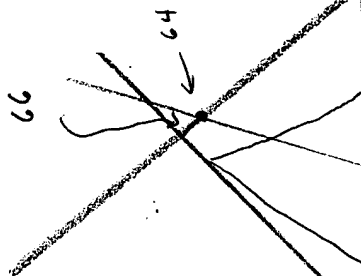
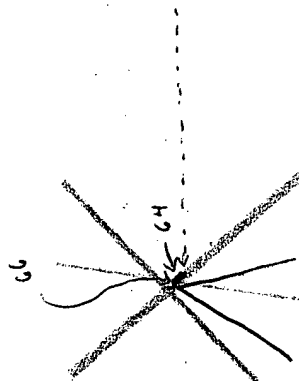
fhm

A handwritten signature in black ink, appearing to read "Thomas H. Tarcza". The signature is fluid and cursive, with the first name "Thomas" being more prominent than the last name "Tarcza".

THOMAS H. TARCZA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

# APPENDIX

ZOOM IN



58A

58B

58C

56A

56B

56C

$RX(t=0)$

$RX(t=1)$

$RX(t=2)$

60A

60C